



Salmon and Watershed Information Management

Strategic Principles and Concepts

by
Salmon and Watershed Information Management
Technical Advisory Committee

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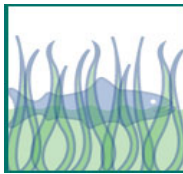
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TABLE OF CONTENTS

Section I	Mission and Vision Statements	2
Section II	Salmon and Watershed Information Management Profile.....	3
Section III	Critical Issues and Strategies.....	5
Section IV	Strategic Direction.....	7
Section V	Shared Scope and Approach.....	8
Section VI	Implementation Approach.....	10
Section VII	Appendices.....	11



Salmon & Watershed Information Management

The purpose of this document is to outline the operating principles of the Salmon and Watershed Information Management Technical Advisory Committee, its creation, purpose and overarching goal in furthering the effective management of information for all stakeholders in Washington.

Section I Salmon Recovery and Watershed Information Management Mission and Vision Statement

A Statewide Overview

The Washington Statewide Strategy to Recover Salmon has the primary goal to "Restore salmon, steelhead, and trout populations to healthy and harvestable levels and improve the habitats on which fish rely." The Strategy was designed as the state's long-term vision or guide for salmon recovery.

Based on this and other critical mandates facing natural resource agencies such as Monitoring Oversight, Transportation Permit Streamlining, and Bio-Diversity Strategy, the need for improved natural resource data availability and quality triggered the formation and continuance of the Salmon and Watershed Information Management (SWIM) team.

MISSION

Provide the capability to readily find, access, share, and disseminate critical information that is needed for salmon recovery and watershed management

VISION

Provide guidance on the creation and implementation of effective solutions in order to ensure that:

- Citizens and salmon recovery partners have timely access to information and technical assistance
- State agencies work collaboratively among themselves, and with others, to provide cost effective salmon recovery and watershed information management solutions



Section II Salmon and Watershed Information Management Profile

Overview

Interagency data coordination and information management is an important consideration for successful salmon recovery and watershed management. The Salmon and Watershed Information Management (SWIM) focuses on facilitating interagency coordination. Working within this forum helps organizations identify information management issues and common solutions.

Early in 2000, a proposal was presented to the Governor's Joint Natural Resource Management Council (JNRC) where it was identified that a full-time coordinator and technical team was needed to manage salmon recovery and watershed information and to identify problems and suggest solutions. The coordinator and technical forum would address how to link data to provide and report information in an appropriate format.

A major interagency initiative under JNRC was the Salmon Scorecard that helped identify Washington's data resources, assessed their status, and identified what data was still lacking. By establishing what is missing, you can target and prioritize the creation or inclusion of information, thus leading to the creation of SWIM Technical Advisory Committee (TAC).

Subsequently, other natural resource/environmental initiatives have chosen to use the existing forum of SWIMTAC to coordinate and/or resolve their data management, planning, and requirement needs. This mandate includes: monitoring oversight committees (SSB5637), Transportation Permit Efficiency and Accountability (ESB6188), and the Biodiversity Strategy (Executive Order 04-02). SWIM members are looked to, to identify data gaps and harness interagency efforts to resolve those gaps.

Salmon & Watershed Information Management Coordinator

The SWIM Coordinator serves as the chair of the SWIM Technical Advisory Committee on matters related to salmon and watershed information management. The chair's primary role is to:

- Provide tactical leadership and coordination
- Coordinate with other information management forums (intergovernmental forums, spatial data coordination, private/public partnerships, framework efforts)
- Facilitate outreach between natural resource/environmental management, scientists, planners, decision makers, and information managers
- Manage emerging information issues and their resolution



The position is housed in the Interagency Committee for Outdoor Recreation (IAC), which provides basic administrative support.

Salmon & Watershed Information Management Technical Advisory Committee

The SWIMTAC was established to facilitate communication and coordination between agencies and organizations on matters relating to salmon recovery and watershed information management. It is the preferred venue to present and explore interagency issues and solutions through a consensus-building process. The primary role is to:

- Identify information management issues, including data gaps
- Determine existing capabilities and needs
- Recommend priorities and solutions
- Implement funded solutions
- Promote information management related policy and standards to the Information Services Board (ISB) and embrace ones that have been established

The SWIM Team recommends solutions to address prioritized data and information needs. Participation is open to organizations that are willing to actively work to resolve issues related to salmon recovery and watershed health. Each representative knows their agency's business and data needs. Representatives can make commitments within their area of authority that are consistent with the written policies and budgets of their respective organizations. As an advisory council, SWIM provides guidance to member agencies and other groups coordinating natural resource/environmental interagency initiatives.

Member agencies include:

Puget Sound Action Team (PSAT);
NW Indian Fisheries Commission (NWIFC);
WA Conservation Commission (WCC);
WA Department of Fish & Wildlife (WDFW);
WA Department of Ecology (ECY);
WA Department of Natural Resources (DNR);
WA Department of Transportation (WSDOT);
WA Department of Agriculture (WSDA);
WA Department of Community Trade & Economic Development (CTED);
WA Department of Information Services (DIS);
WA Department of Health (DOH);
WA Department of Parks & Recreation;
WA Office of the Interagency Committee (IAC); and
WA Office of Financial Management (OFM)



Section III Critical Issues and Strategies

The Challenge....

Natural resource management has shifted from an issue specific approach to an integrated approach of landscape and watershed planning. The shift in approach has increased the need for agency coordination and data sharing. As a result, data sharing has increased. However, it has also become evident that the ability to integrate data is limited and inadequate to support the landscape and watershed analysis. Specific issue areas that have been identified include (but are not limited to) data formats, data standards, awareness of data, and access to data.

Despite this effort, a coherent vision on data sharing is incomplete. However, through work and linkages with groups like the WA Geographic Information Council and WA Framework Group, the understanding of data needs and technological challenges can be furthered. Technology has continued to evolve, providing new opportunities for sharing information across locations and platforms. Interest and commitment from federal and state agencies, tribal and local governments, universities, and others in certain data areas, continues to be sustained. However, the interest in coordination has been largely unfunded and lacks support from agency leaders. This handicaps the ability of agencies to sustain an organized commitment to improved data management.

The general information management issues being faced by state agencies include:

- Disparate data stores exist with minimal cross-agency integration
- Agencies are staffed and funded to meet their internal requirements, not the inter-agency common ones
- Lack of resources dedicated to address interagency needs
- Lack of clarity around certain roles and responsibilities... "isn't someone else taking care of that?"
- Complex problems are difficult to get a handle on... "Where do we start?"
- Balancing how scientist and information technology managers look at and consider data (see illustrations below)



Salmon recovery and watershed health information issues have both science and information technology components. There needs to be an intrinsic link between the two in order to create and support information resources for long term governmental operations.

<i>Science Based Data Issues</i>		<i>Information Management Issues</i>
What data is needed? <i>(monitoring strategy)</i>	Need Linkage	How do we store, update and access the data? <i>(data architecture)</i>
How is it collected? <i>(methods and protocols)</i>		How is data protected and backed up? <i>(security)</i>
How is it analyzed? <i>(analytical models)</i>		How is data redundancy minimized? <i>(data standards)</i>
Who provides it and how often? <i>(steward)</i>		How do we promote better data integration? <i>(framework data)</i>
When and how will it be reported? <i>(science driven)</i>		How do we leverage cross-agency IT capabilities? <i>(data coordination)</i>

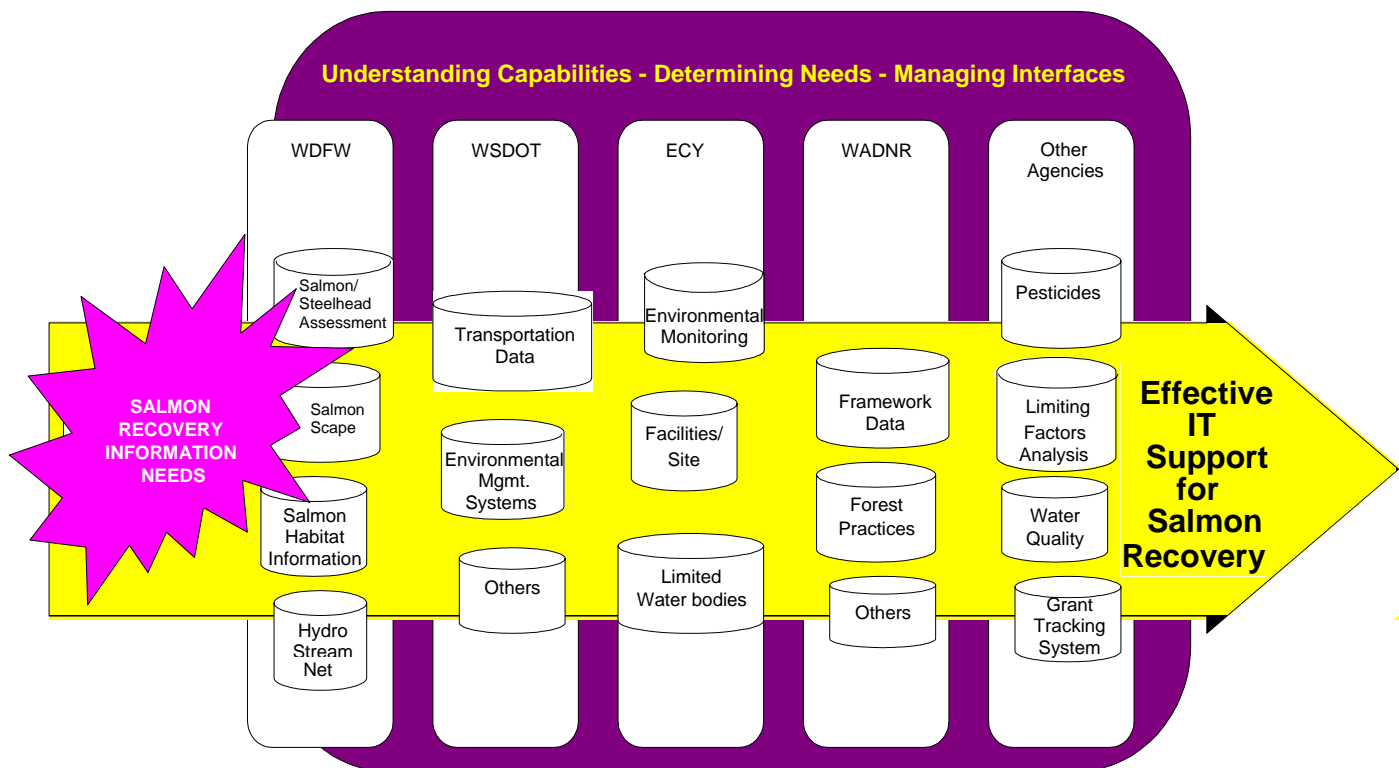
Section IV Strategic Direction

The vision today, as always, is to use the best information when making critical environmental decisions. Locating, accessing and correlating the information are the challenges that scientists and decision-makers constantly face.

By in large, information systems are developed with one business use in mind, but inevitably evolve to meet additional emerging needs. This is a common phenomenon of information systems... thus the challenge today is finding ways to link it all together – technologically and institutionally.

The following *Shared Scope and Approach* are intended to improve delivery of information to decision-makers and scientists in spite of this challenge.

Finding The Common Linkage Between Information





Section V Shared Scope and Approach

The shared objectives of the twelve natural resource agencies on the Salmon & Watershed Information Management are focused on the long-term improvement, management and coordination of information to improve the natural resource and environmental business decision-making process. This is achieved by:

- Providing cost effective salmon and watershed information management solutions through the **coordination** of information resources across state agencies.
- Enabling users to **discover and access** data that's critical to salmon and watershed decision-making so that citizens and salmon recovery partners have timely access to information and technical assistance.
- Ensuring that users are **educated** on intended use and purpose of information that's collected and published on the Natural Resource Information Portal, which extends to the display of critical data in spatial, tabular, and graphic report formats.

The best way to ensure that this shared scope is realized is by making sure there is a mechanism to publish, share and use information responsibly. Some of the ways to accomplish this include:

Data Discovery - *Can I find it....*

- Provide a one stop location to look for and discover natural resource and environmental data
- Provide a cross-indexed, facilitated search tool by subject and key word

Data Availability - *Is it readily available....*

- Provide information management guidelines for the effective data management of strategically important environmental and natural resources data
- Identify critical data sets to ensure that data gaps are filled
- Ensure that critical data are adequately maintained and that stewardship of the data is clearly identified
- Encourage the posting of environmental and natural resources data at the Natural Resource Information Portal at <http://www.swim.wa.gov/>



Data Access – *Can I get to it....*

- Provide timely access to information and technical assistance for citizens and salmon recovery partners
- Provide a single place to learn about and access the most current natural resources data available from state agencies and other entities
- Promote integration of data between and within organizations
- Leverage system redesigns to incorporate common linkages between the systems so that decision makers, scientists, and the public can better utilize existing information

Data Quality – *Is it complete and documented....*

- Provide linkages to existing natural resource standards efforts
- Provide guidelines on how to document information
- Encourage the use of documentation methods and accepted data standards
- Ensure that information is clearly documented when posted for use

Appropriate Use and Interpretation – *Is it what I need to answer the question....*

- Ensure that data's intended use is clearly stated
- Identify and define the common elements that are needed in database systems in support of salmon recovery and watershed health
- Promote the ability to integrate and post information and datasets for scientists and decision-makers



Section VI Implementation Approach

There are five key implementation strategies that are deemed important for the Salmon & Watershed Information Management (SWIM) team to pursue. This approach provides an outline of the following activities:

1. SWIM Coordinator pursues information coordination, outreach, and planning.
2. SWIM meets regularly to coordinate interagency data mandates and functions as the forum for interagency information management discussions.
3. Provide interagency support, facilitate stewardship of critical data sets, and fill critical data gaps.
4. Continue to nurture and promote the Natural Resource Information Portal and ensure that it remains operational.
5. Leverage opportunities to expand the functionality of the Natural Resource Information Portal so its full potential is realized.

It is around this approach that SWIM will develop its detailed Action Plan as outlined in a separate document.



Section VII Appendices

Appendix A: Background

For nearly a decade, agencies and organizations have been interested in improving access to and sharing existing data. Many activities and initiatives have occurred over the last several years. Some significant events have been noted below in order to provide some perspective.

- The Puget Sound Action Plan raised the need for data sharing in the 1980's.
- The Governor's Policy Office prepared a report on data sources that support watershed planning in the early 1990's.
- The Governor's Watershed Coordinating Council surveyed data sources again in 1994 and suggested an approach for data sharing.
- The Watershed Recovery Inventory Project compiled a list of salmon recovery data sources in 1998.
- The Washington Geographic Information Council (WAGIC) was formed as an ad hoc committee in response to the need to coordinate and share data.
- WAGIC – Framework Efforts - Hydrography
- WAGIC – Clearinghouse for Hydrography Data
- The Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIA) began compiling information on salmonid habitat in western Washington in 1996.
- The WSDOT hosted a Data Summit in June 1999 to discuss natural resource data integration.
- The U.S. Department of the Interior hosted a meeting on Pacific Salmon Information in September 1999 to discuss data sharing issues and opportunities.
- Salmon Recovery Scorecard Objective M1 Committee Survey (2000)
- Monitoring Oversight Survey
- 2003 Biodiversity Strategy
- Information Services Board (ISB) Geographic Information Technology (GIT) Sub Committee formed (2003)
- Transportation Permit Efficiency and Accountability Committee
 - Data Requirements for Permitting Survey
 - IT Coordination on Permitting